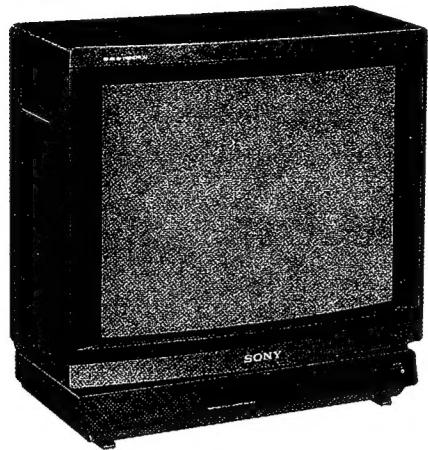


SERVICE MANUAL

US Model

Chassis No.: SCC-A05H-A

**P3A CHASSIS**

SPECIFICATIONS

Color system	NTSC system
Picture tube	Microblack Trinitron tube
	20-inch picture measured diagonally
	21-inch picture tube measured diagonally
Inputs	Audio phono jack, 408 mVrms (100% modulation), high impedance
	Video BNC connector Composite video, 1 Vp-p, sync negative, 75 ohms termination switchable
Outputs	Audio Phono jack Video BNC connector
Speaker	8 ohms
Power requirements	120 V AC, 60 Hz
Power consumption	125 W (max.)
Weight	Approx. 23 kg (50 lb 12 oz)
Dimensions	Approx. 512 x 489 x 475 mm (w/h/d) (20 1/4 x 19 3/8 x 18 3/4 in.)

Design and specifications are subject to change without notice.

TRINITRON® COLOR MONITOR
SONY®



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WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

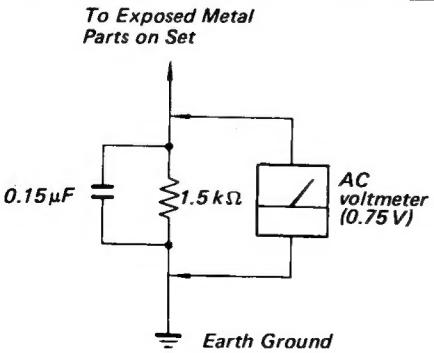


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamper). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

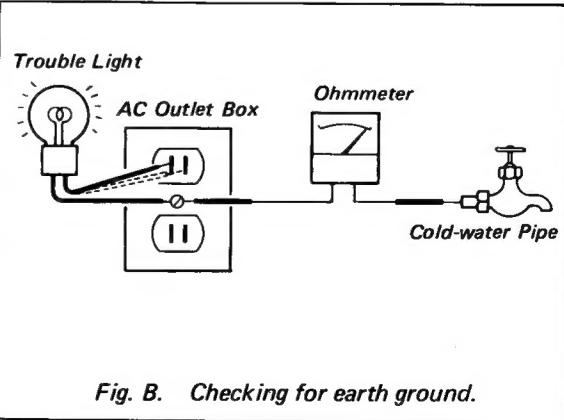
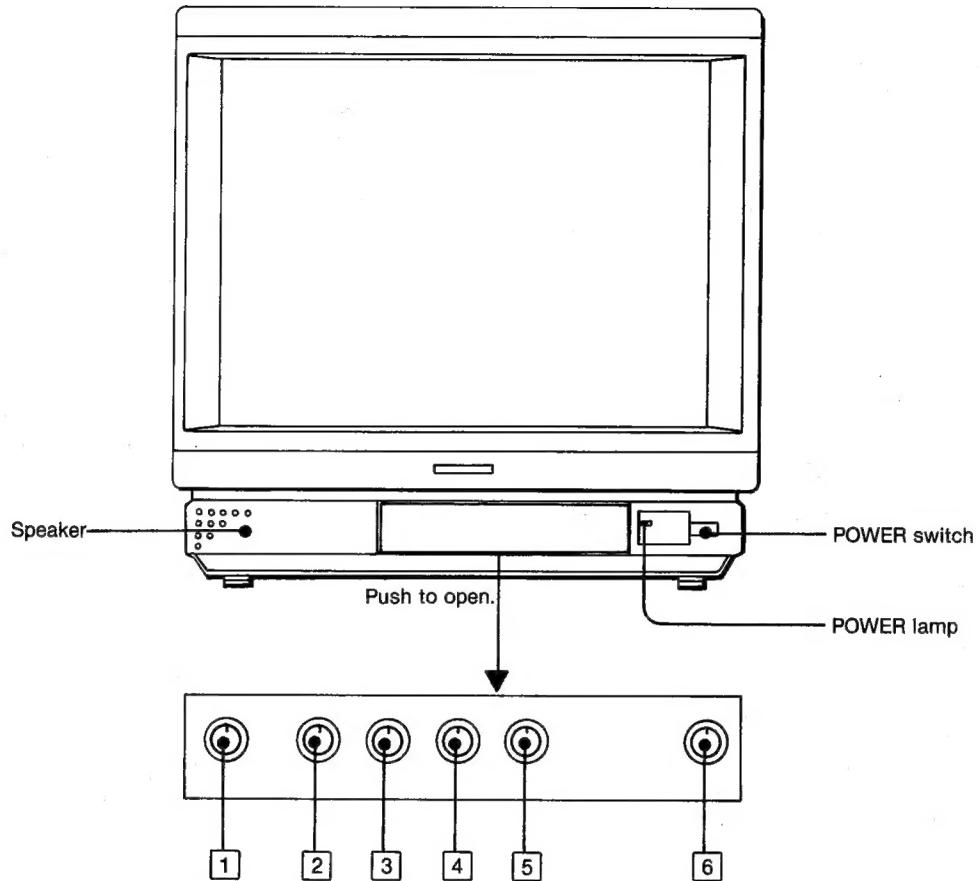


Fig. B. Checking for earth ground.

SECTION 1 GENERAL

1-1. LOCATION AND FUNCTION OF PARTS AND CONTROLS

FRONT PANEL



[1] VOLUME control

Turn clockwise for more volume or counterclockwise for less.

[2] SHARPNESS control

Turn clockwise for more sharpness or counterclockwise for less.

[3] BRIGHT (brightness) control

Turn clockwise for more brightness or counterclockwise for less.

[4] COLOR control

Turn clockwise for more intensity or counterclockwise for less.

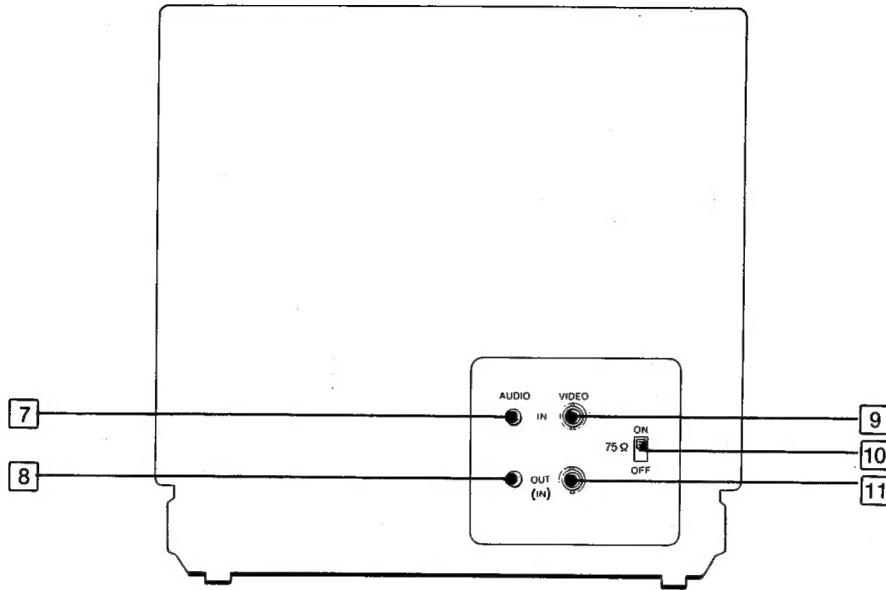
[5] HUE control

Turn clockwise to make the tones greenish or counterclockwise to make them purplish.

[6] PICTURE control

Turn clockwise for more contrast or counterclockwise for less.

REAR PANEL



[7] AUDIO IN (input) jack (phono jack)

[8] AUDIO OUT (IN) (output/input) jack (phono jack)

Set the 75-ohm switch to ON when using as input and OFF when using as output.

[9] VIDEO IN (input) connector (BNC)

[10] 75-ohm termination switch

When only the AUDIO/VIDEO IN connectors are used (nothing is connected to the AUDIO/VIDEO OUT (IN) connectors), or when using the AUDIO/VIDEO OUT (IN) connectors as inputs, set this switch to ON.

When both connectors are used together for a loop-through connection, set this switch to OFF.

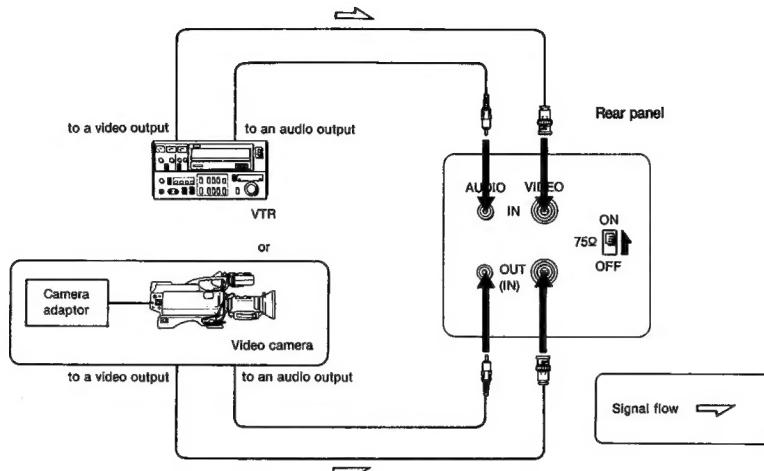
[11] VIDEO OUT (IN) (output/input) connector (BNC)

Set the 75-ohm switch to ON when using as input and OFF when using as output.

1-2. SYSTEM CONNECTIONS

- Before making connections, make sure that the POWER switch is turned off.
- Connect the unit to an AC 120 V power outlet after making connections.

Connecting Several Monitors – Loop-through connection

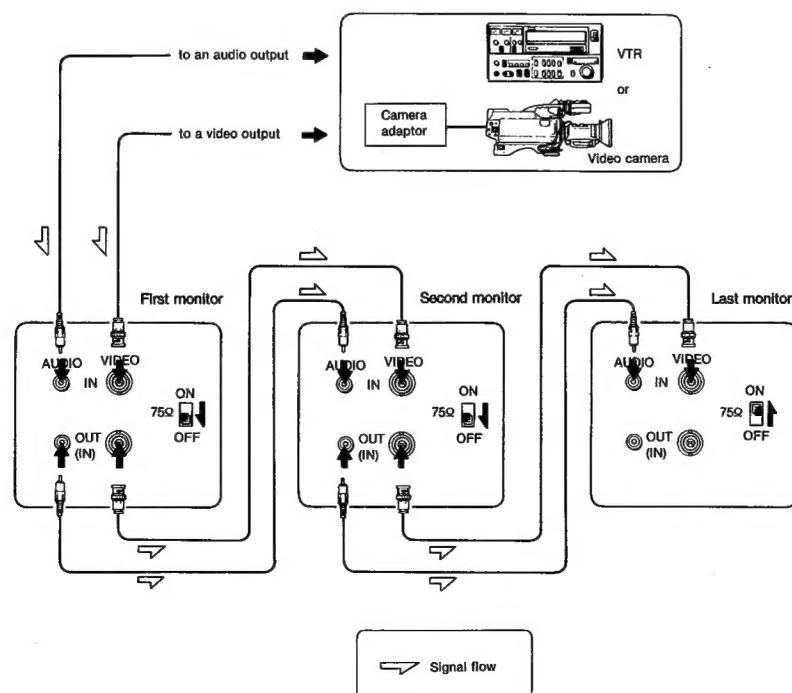


Note (when using)

When VTR's (or cameras) are connected to both AUDIO/VIDEO IN and AUDIO/VIDEO OUT (IN) connectors, turn off the power on one of them.

Connecting Several Monitors – Loop-through connection

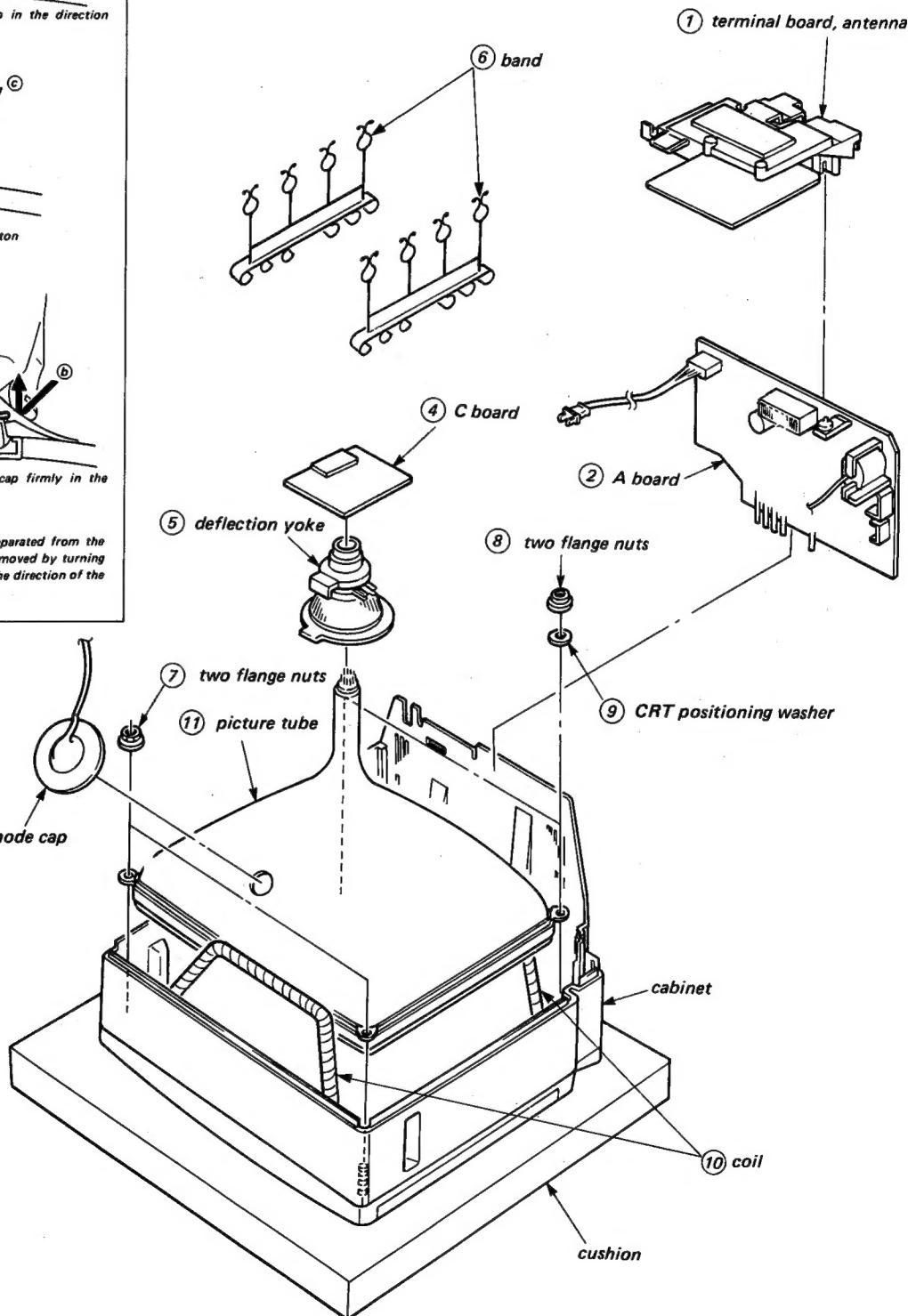
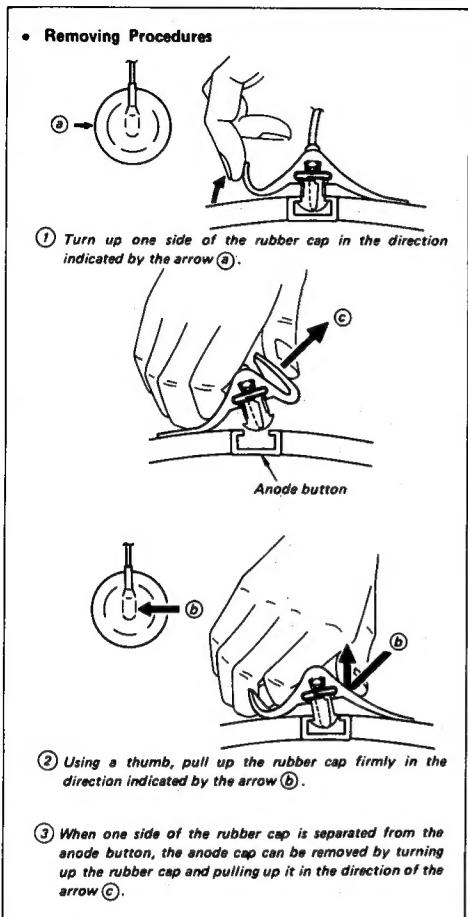
A loop-through connection is convenient for monitoring the same picture on several monitors. Up to 3 monitors can be connected without significant loss of signal.



SECTION 2

DISASSEMBLY

2-1. PICTURE TUBE REMOVAL



SECTION 3

SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:

PICTURE control MAXIMUM

BRIGHTNESS control MAXIMUM

Perform the adjustments in order as follows:

- Beam Landing
- Convergence
- Focus
- White Balance
- Sub Brightness

Note: Test Equipment Required.

- Color-bar/Pattern Generator
- Degausser

3-1. BEAM LANDING

Preparation:

- Feed in the white pattern.
- Before starting, degauss the entire screen.

- Loosen deflection yoke screw.
- Adjust purity control as shown in Fig. 3-1.
- Slide deflection yoke as far forward as it will go.
- Turn the raster signal of the pattern generator to red.
- Adjust purity control to center vertical red band as shown in Fig. 3-2.
- Slide deflection yoke back for a uniform red screen.
- Check green and blue rasters for uniformity by performing the same way as steps 4, 5 and 6.
- Tighten the deflection yoke screw.
- Check if mislanding appears at corners a-d as shown in Fig. 3-3. If mislanding is observed, correct it as shown in Fig. 3-3.
- Confirm that beam landing is correct when the receiver is faced in all directions.

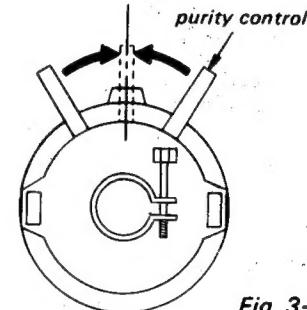
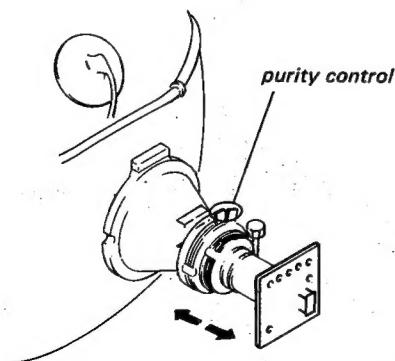


Fig. 3-1.

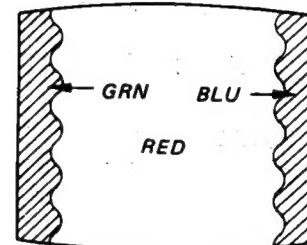


Fig. 3-2.

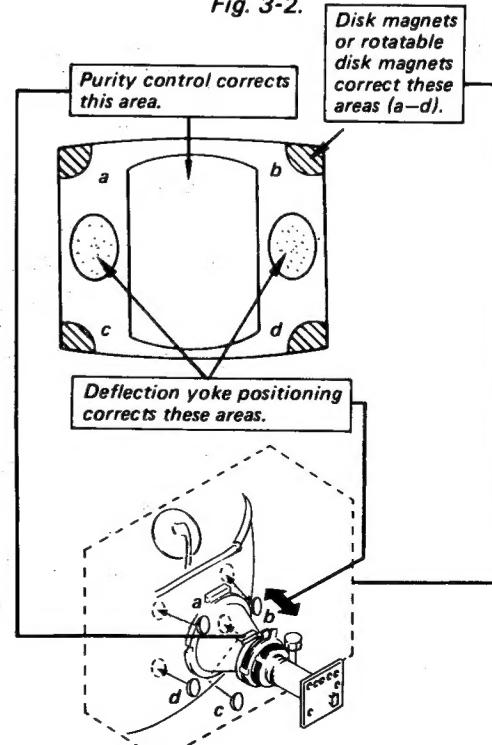


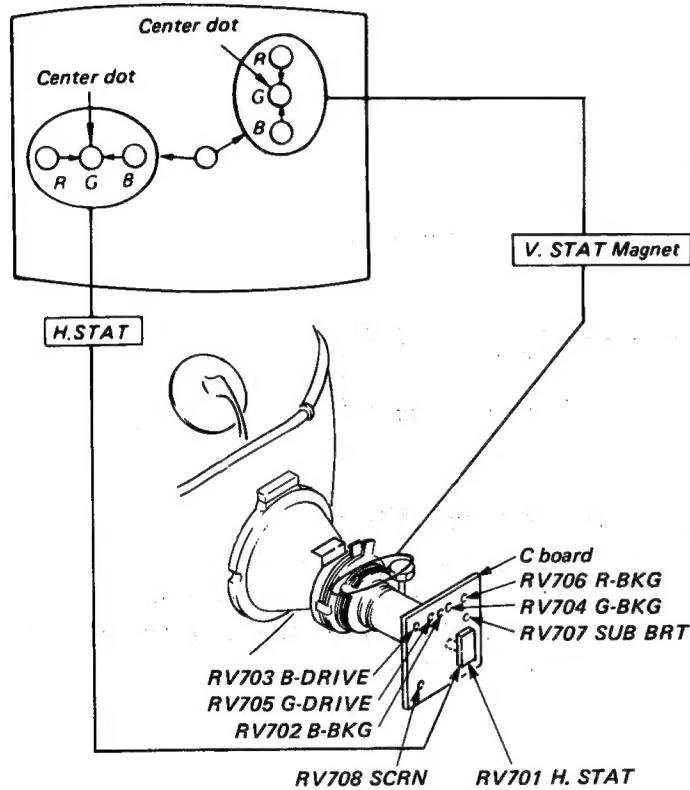
Fig. 3-3.

3-2. CONVERGENCE

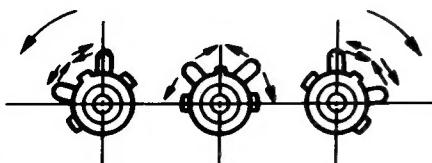
Preparation:

- Before starting, perform FOCUS, H. SIZE and V. SIZE adjustments.
- Set BRIGHTNESS control to fully counterclockwise.
- Feed in the dot pattern.

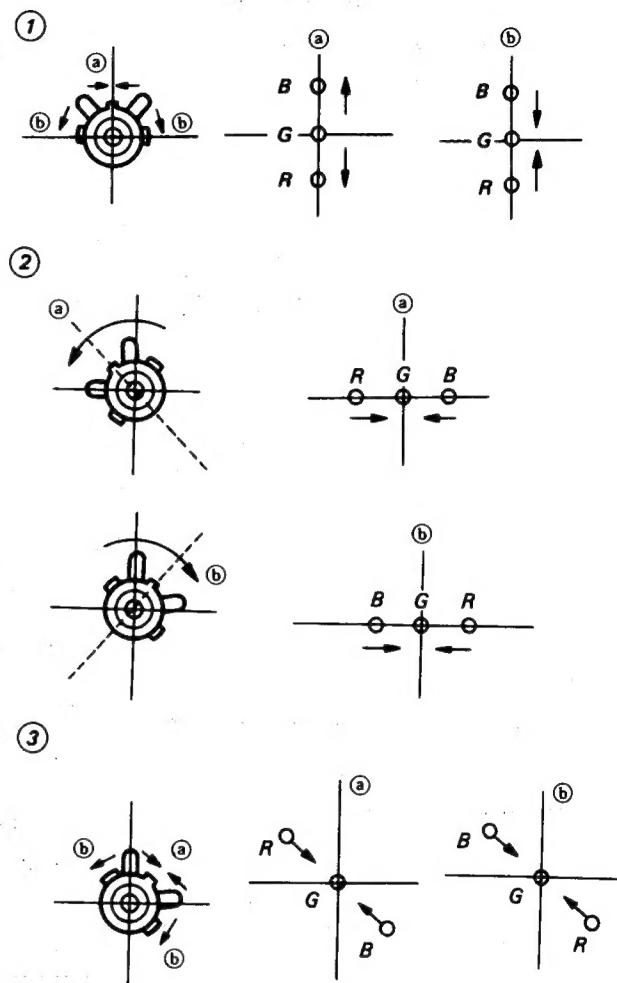
(1) Horizontal and Vertical Static Convergence



1. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen (Horizontal movement)
2. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen (Vertical movement)
3. If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform horizontal convergence adjustment using H. STAT VR and V. STAT magnet as shown below. (In this case, H. STAT VR and V. STAT magnet effect each other.)
- Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



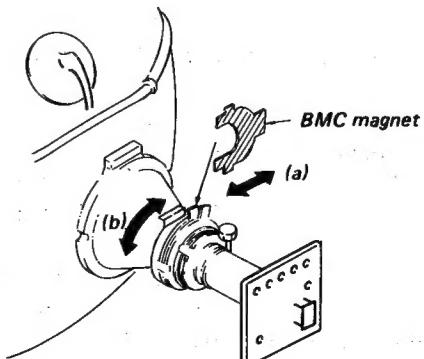
4. When the V. STAT magnet is moved in the direction of arrow (a) and (b), Red, Green and Blue dots move as shown below.



If blue dot does not coincide with red and green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.
Rotate BMC magnet (b) to correct insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.



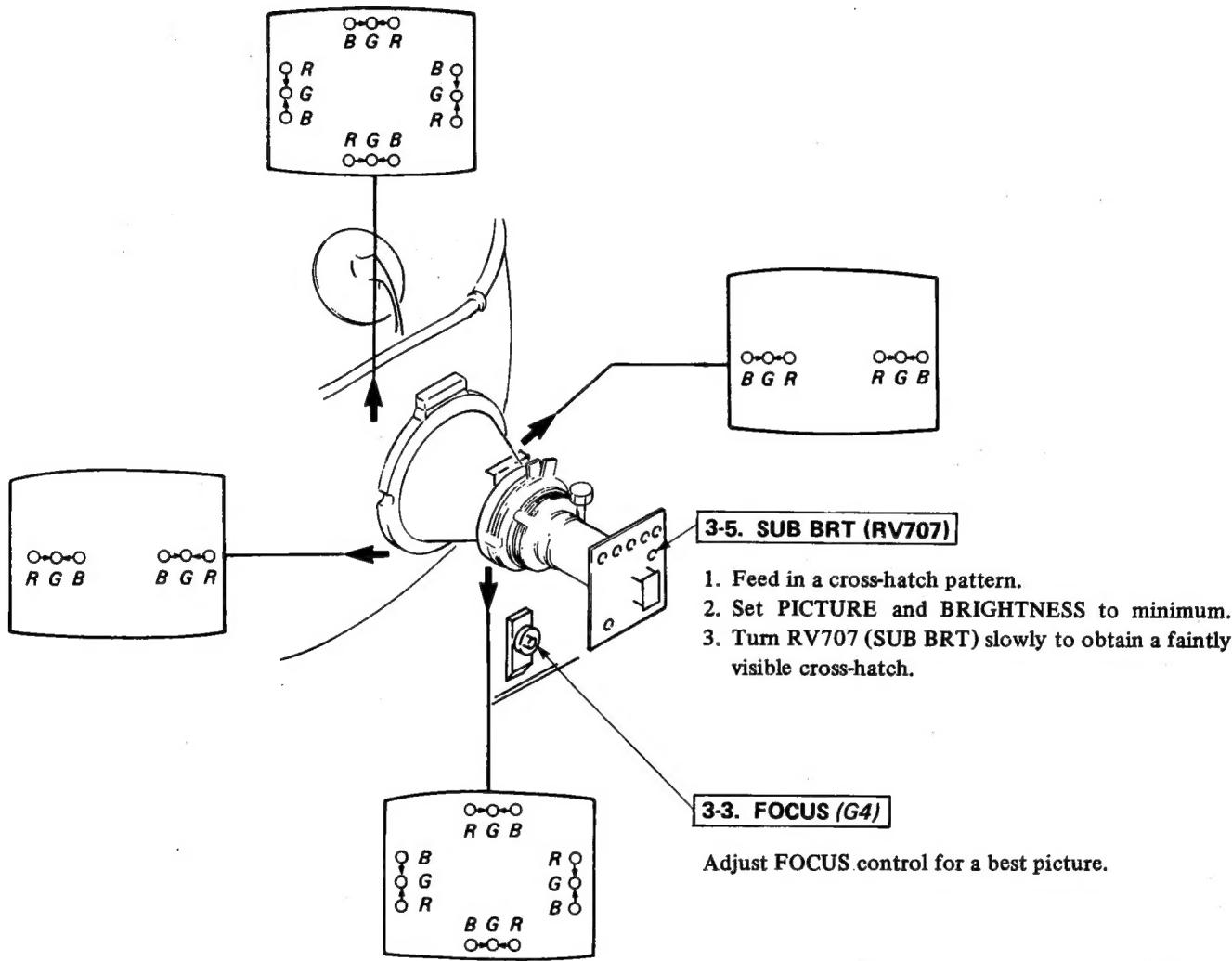
(2) Dynamic Convergence Adjustment**Preparation:**

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.

3. Move the deflection yoke for best convergence as shown below.

4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

**Feed in the cross-hatch pattern.**

1. Set BRIGHTNESS and PICTURE controls to minimum.
2. Turn RV703 (B. DRIVE) and RV705 (G. DRIVE) fully counterclockwise.
3. Set RV706 (R. BKG), RV704 (G. BKG), RV702 (B. BKG) and RV707 (SUB BRT) to mechanical center.
4. Turn RV708 (SCREEN) slowly to obtain a faintly visible cross-hatch. Note the color that first becomes visible by turning RV708. Do not turn a BKG control for this color.

5. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hatch.
6. Set BRIGHTNESS and PICTURE controls to maximum. Observation the screen and adjust the DRIVE controls for best white balance.
7. Repeat Steps 1 through 6 several times.

A

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
L503	1-410-6 -31	MICRO INDUCTOR 33UH		R250	1-249-411-11	CARBON	330 5% 1/6W F
L504	1-459-313-00	COIL WITH CORE (HWC)		R251	▲1-246-987-11	CARBON	47K 5% 1/6W F
L505	1-459-104-00	COIL, DUST CORE		R252	1-249-459-11	CARBON	12K 5% 1/6W
L506	1-407-365-00	COIL, CHOKE		R253	1-249-434-11	CARBON	27K 5% 1/6W
L507	1-408-349-00	COIL, CHOKE		R254	1-249-417-11	CARBON	1K 5% 1/6W
L508	1-408-239-00	MICRO INDUCTOR 4.7MMH		R255	1-249-429-11	CARBON	10K 5% 1/6W
L509	1-459-390-00	COIL (WITH CORE)		R256	1-249-429-11	CARBON	10K 5% 1/6W
L510	▲1-459-626-11	HLCF 30V 1A 1000Ω 10% ±1%	0169	R301	1-215-471-00	METAL	120K 1% 1/6W
L511	1-459-075-00	COIL, DYNAMIC CONVERSION CHOKE		R302	1-249-438-11	CARBON	56K 5% 1/6W
L513	1-410-665-31	MICRO INDUCTOR 15UH		R303	1-249-429-11	CARBON	10K 5% 1/6W
L514	1-459-407-00	COIL, FERRITE CHOKE		R304	1-215-479-00	CARBON	270K 5% 1/6W
L601	1-408-225-00	MICRO INDUCTOR 3.3UH		R305	1-249-468-11	CARBON	82K 5% 1/4W
L602	1-408-225-00	MICRO INDUCTOR 3.3UH		R306	1-249-437-11	CARBON	47K 5% 1/6W
L603	1-410-686-11	MICRO INDUCTOR 1MMH		R307	1-249-429-11	CARBON	10K 5% 1/6W
L604	1-408-417-00	MICRO INDUCTOR 47UH		R308	1-249-411-11	CARBON	330 5% 1/6W
L605	1-408-429-00	MICRO INDUCTOR 470UH		R309	1-249-411-11	CARBON	330 5% 1/6W
L606	1-408-421-00	MICRO INDUCTOR 100UH		R310	1-249-411-11	CARBON	330 5% 1/6W
L607	1-408-421-00	MICRO INDUCTOR 100UH		R311	1-249-429-11	CARBON	10K 5% 1/6W
L608	1-408-421-00	MICRO INDUCTOR 100UH		R312	1-247-713-11	CARBON	1K 5% 1/4W
L609	1-408-421-00	MICRO INDUCTOR 100UH		R313	1-246-507-00	CARBON	27K 5% 1/4W
L610	1-408-421-00	MICRO INDUCTOR 100UH		R315	1-249-417-11	CARBON	1K 5% 1/6W
		<u>NEON LAMP</u>		R316	1-249-411-11	CARBON	330 5% 1/6W
NL501	1-519-237-11	LAMP, NEON		R318	1-249-417-11	CARBON	1K 5% 1/6W
		<u>MODULE</u>		R319	1-249-417-11	CARBON	1K 5% 1/6W
PM501	1-235-962-11	PROTECTOR MODULE (PM-8)		R320	1-249-417-11	CARBON	1K 5% 1/6W
		<u>TRANSISTOR</u>		R323	1-249-427-11	CARBON	6.8K 5% 1/6W
Q201	8-729-178-54	TRANSISTOR 2SC2785		R328	1-249-414-11	CARBON	560 5% 1/6W
Q301	8-729-178-54	TRANSISTOR 2SC2785		R329	1-249-441-11	CARBON	100K 5% 1/6W
Q302	8-729-178-54	TRANSISTOR 2SC2785		R330	1-247-849-00	CARBON	5.6K 5% 1/6W
Q303	8-729-178-54	TRANSISTOR 2SC2785		R333	1-249-417-11	CARBON	1K 5% 1/6W
Q304	8-729-178-54	TRANSISTOR 2SC2785		R334	1-249-413-11	CARBON	470 5% 1/6W
Q305	8-729-117-54	TRANSISTOR 2SA1175		R335	1-249-425-11	CARBON	4.7K 5% 1/6W
Q310	8-729-117-54	TRANSISTOR 2SA1175		R336	1-249-425-11	CARBON	4.7K 5% 1/6W
Q311	8-729-178-54	TRANSISTOR 2SC2785		R340	1-249-430-11	CARBON	12K 5% 1/6W
Q354	8-729-117-54	TRANSISTOR 2SA1175		R341	1-247-717-11	CARBON	2.2K 5% 1/4W
Q371	8-729-178-54	TRANSISTOR 2SC2785		R350	1-249-437-11	CARBON	47K 5% 1/6W
Q398	8-729-178-54	TRANSISTOR 2SC2785		R352	1-215-491-00	CARBON	820K 5% 1/6W
Q501	8-729-107-26	TRANSISTOR 2SD1585-K		R353	1-249-429-11	CARBON	10K 5% 1/6W
Q502	8-729-117-54	TRANSISTOR 2SA1175		R359	1-249-431-11	CARBON	15K 5% 1/6W
Q550	8-729-168-82	TRANSISTOR 2SC2688		R361	1-249-429-11	CARBON	10K 5% 1/6W
Q551	8-729-203-80	TRANSISTOR 2SD1555-LB-S1		R362	1-216-449-11	METAL OXIDE	56 5% 2W F
Q599	8-729-177-43	TRANSISTOR 2SD774		R366	1-249-430-11	CARBON	12K 5% 1/6W
Q601	8-729-255-12	TRANSISTOR 2SC2551		R367	1-249-436-11	CARBON	39K 5% 1/6W
Q602	8-729-255-12	TRANSISTOR 2SC2551		R368	1-249-417-11	CARBON	1K 5% 1/6W
Q603	8-729-178-54	TRANSISTOR 2SC2785		R369	1-247-713-11	CARBON	1K 5% 1/4W
Q604	8-729-178-54	TRANSISTOR 2SC2785		R371	1-249-417-11	CARBON	1K 5% 1/6W
Q605	8-729-178-54	TRANSISTOR 2SC2785		R375	1-249-434-11	CARBON	27K 5% 1/6W
Q606	8-729-117-54	TRANSISTOR 2SA1175		R378	1-215-920-11	METAL OXIDE	3.3K 5% 3W F
				R379	1-215-920-11	METAL OXIDE	3.3K 5% 3W F
				R380	1-249-419-11	CARBON	1.5K 5% 1/6W

R381 ▲ 1-249-417-11 CARBON 1/6W F 0261

- The components identified by  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

A

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>	<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Remark</u>			
R382	1-202-80-00	SOLID	10K	5%	1/2W		R558	1-249-410-11	CARBON	270	5%	1/6W		
R387	1-247-714-11	CARBON	1.2K	5%	1/4W		R559	1-249-415-11	CARBON	680	5%	1/6W		
R388	1-249-405-11	CARBON	100	5%	1/6W		R560	1-247-719-11	CARBON	3.3K	5%	1/4W		
R389	1-249-419-11	CARBON	1.5K	5%	1/6W		R563	1-246-511-00	CARBON	39K	5%	1/4W		
R390	1-249-417-11	CARBON	1K	5%	1/6W		R565	1-249-441-11	CARBON	100K	5%	1/6W		
R391	1-249-427-11	CARBON	6.8K	5%	1/6W		R566	1-246-535-00	CARBON	390K	5%	1/4W		
R392	1-249-437-11	CARBON	47K	5%	1/6W		R567	▲1-216-353-51	METAL OXIDE (4)	2/200	5%	0.021W	F	802
R393	1-249-425-11	CARBON	4.7K	5%	1/6W		R570	1-216-431-11	METAL OXIDE	560	5%	1W	F	
R394	1-249-399-11	CARBON	33	5%	1/6W		R572	1-249-423-11	CARBON	3.3K	5%	1/6W		
R395	1-249-433-11	CARBON	22K	5%	1/6W		R573	1-247-764-11	CARBON	10K	5%	1/2W	F	
R396	1-249-435-11	CARBON	33K	5%	1/6W		R574	1-216-345-11	METAL OXIDE	0.47	5%	1W	F	
R397	1-249-434-11	CARBON	27K	5%	1/6W		R577	1-216-451-11	METAL OXIDE	120	5%	2W	F	
R398	1-249-423-11	CARBON	3.3K	5%	1/6W		R579	▲1-249-415-51	CARBON (SOLID)	680K	5%	1/6W	F	803
R501	1-215-920-11	METAL OXIDE	3.3K	5%	3W	F	R580	1-216-428-00	METAL OXIDE	180	5%	1W	F	
R502	1-216-484-00	METAL OXIDE	3.9K	5%	3W	F	R581	1-247-708-11	CARBON	470	5%	1/4W	F	
R503	1-249-408-11	CARBON	180	5%	1/6W		R582	1-215-863-11	METAL OXIDE	100	5%	1W	F	
R504	1-249-411-11	CARBON	330	5%	1/6W		R583	1-215-863-11	METAL OXIDE	100	5%	1W	F	
R505	1-214-780-00	METAL	130K	1%	1/4W		R586	1-247-746-11	CARBON	390	5%	1/2W		
R506	1-247-702-11	CARBON	150	5%	1/4W		R587	▲1-215-899-51	METAL OXIDE	15K	5%	1/2W	F	803
R507	1-247-849-00	CARBON	5.6K	5%	1/6W		R589	1-249-441-11	CARBON	100K	5%	1/6W		
R508	1-249-465-11	CARBON	47K	5%	1/4W		R590	1-216-445-11	METAL OXIDE	12	5%	2W	F	
R509	1-246-507-00	CARBON	27K	5%	1/4W		R591	1-216-345-11	METAL OXIDE	0.47	5%	1W	F	
R510	1-249-422-11	CARBON	2.7K	5%	1/6W		R598	1-249-389-11	CARBON	4.7	5%	1/6W	F	
R511	1-202-727-00	SOLID	4.7M	10%	1/2W		R599	1-249-419-11	CARBON	1.5K	5%	1/6W		
R512	1-249-411-11	CARBON	330	5%	1/6W		R601	1-202-719-00	SOLID	1M	10%	1/2W		
R513	1-215-472-00	METAL	130K	1%	1/6W		R602	▲1-205-792-11	CEMENTED	1.8	10.5%	10W		
R514	1-214-765-00	METAL	33K	1%	1/4W		R603	1-249-429-11	CARBON	10K	5%	1/6W		
R515	1-249-427-11	CARBON	6.8K	5%	1/6W		R605	▲1-205-700-11	CEMENTED	200	5%	20W		
R516	1-249-428-11	CARBON	8.2K	5%	1/6W		R606	1-247-721-11	CARBON	4.7K	5%	1/4W		
R517	1-247-713-11	CARBON	1K	5%	1/4W		R607	1-247-704-11	CARBON	220	5%	1/4W		
R519	1-249-424-11	CARBON	3.9K	5%	1/6W		R610	1-207-636-00	WIREDWIND	100	10%	2W	F	
R521	1-247-887-00	CARBON	220K	5%	1/6W		R611	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F	
R523	1-247-713-11	CARBON	1K	5%	1/4W		R612	1-205-746-11	CEMENTED	6.8K	5%	15W		
R524	1-249-417-11	CARBON	1K	5%	1/6W		R613	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F	
R525	1-249-419-11	CARBON	1.5K	5%	1/6W		R614	1-215-892-11	METAL OXIDE	1K	5%	2W	F	
R526	1-249-747-11	CARBON	1.5M	5%	1/4W		R615	1-216-463-00	METAL OXIDE	12K	5%	2W	F	
R527	1-249-748-11	CARBON	1.8M	5%	1/4W		R616	1-247-719-11	CARBON	3.3K	5%	1/4W	F	
R530	1-249-433-11	CARBON	22K	5%	1/6W		R617	1-249-401-11	CARBON	47	5%	1/6W	F	
R535	1-249-419-11	CARBON	1.5K	5%	1/6W	F	R618	1-247-895-00	CARBON	470K	5%	1/6W		
R539	1-215-373-31	METAL	10	1%	1/6W		R619	1-205-753-11	CEMENTED	10K	5%	10W		
R540	1-247-703-11	CARBON	180	5%	1/4W		R620	1-249-417-11	CARBON	1K	5%	1/6W		
R541	1-247-723-11	CARBON	6.8K	5%	1/4W		R621	1-215-926-00	METAL OXIDE	33K	5%	3W	F	
R542	1-247-719-11	CARBON	3.3K	5%	1/4W		R622	1-249-429-11	CARBON	10K	5%	1/6W		
R543	1-249-430-11	CARBON	12K	5%	1/6W		R623	1-249-411-11	CARBON	330	5%	1/6W		
R544	1-249-424-11	CARBON	3.9K	5%	1/6W		R624	1-249-429-11	CARBON	10K	5%	1/6W		
R545	1-247-714-11	CARBON	1.2K	5%	1/4W		R625	1-249-425-11	CARBON	4.7K	5%	1/6W		
R549	1-249-415-11	CARBON	680	5%	1/6W	F	R626	1-249-425-11	CARBON	4.7K	5%	1/6W		
R550	1-249-429-11	CARBON	10K	5%	1/6W		R627	1-249-437-11	CARBON	47K	5%	1/6W		
R551	1-249-462-11	CARBON	22K	5%	1/4W		R628	1-249-465-11	CARBON	47K	5%	1/4W		
R553	1-249-413-11	CARBON	470	5%	1/6W		R629	1-249-441-11	CARBON	100K	5%	1/6W		
R554	1-249-427-11	CARBON	6.8K	5%	1/6W		R630	1-249-441-11	CARBON	100K	5%	1/6W		
R555	1-249-413-11	CARBON	470	5%	1/6W		R632	1-249-429-11	CARBON	10K	5%	1/6W		
R556	1-216-352-11	METAL OXIDE	1.8	5%	1W	F	R634	1-249-429-11	CARBON	10K	5%	1/6W		

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Ref.No.	Part No.	Description			Remark	Ref.No.	Part No.	Description			Remark		
R635	1-249-417-11	CARBON	1K	5%	1/6W		*A-1330-769-A	C BOARD, COMPLETE	*****				
R636	1-249-429-11	CARBON	10K	5%	1/6W				*****				
R637	1-249-429-11	CARBON	10K	5%	1/6W				*****				
R638	1-249-429-11	CARBON	10K	5%	1/6W				*****				
R639	1-249-417-11	CARBON	1K	5%	1/6W				*****				
R640	1-249-411-11	CARBON	330	5%	1/6W	F			*****				
R641	1-207-636-00	WIREWOUND	100	10%	2W				*****				
R643	1-249-425-11	CARBON	4.7K	5%	1/6W				*****				
R644	1-249-429-11	CARBON	10K	5%	1/6W				*****				
R645	1-247-706-11	CARBON	330	5%	1/4W				*****				
R647	1-247-704-11	CARBON	220	5%	1/4W				*****				
<u>VARIABLE RESISTOR</u>													
RV302	1-230-935-11	RES, VAR, CARBON	20KX4				C701	1-129-714-00	FILM	0.01MF	10%	630V	
RV303	1-230-935-11	RES, VAR, CARBON	20KX4				C702	1-162-116-00	CERAMIC	680PF	10%	2KV	
RV304	1-230-935-11	RES, VAR, CARBON	20KX4				C704	1-124-915-11	ELECT	10MF	20%	63V	
RV305	1-230-935-11	RES, VAR, CARBON	20KX4				C705	1-102-116-00	CERAMIC	680PF	10%	50V	
RV307	1-249-403-11	CARBON	68	5%	1/6W		C706	1-102-116-00	CERAMIC	680PF	10%	50V	
RV310	1-230-929-11	RES, VAR, CARBON	20K				C707	1-102-116-00	CERAMIC	680PF	10%	50V	
RV311	1-237-716-21	RES, VAR, CARBON	10K				C708	1-102-110-00	CERAMIC	220PF	10%	50V	
RV501	1-228-728-00	RES, ADJ, CERAMIC	CARBON	100K			C709	1-102-110-00	CERAMIC	220PF	10%	50V	
RV502	1-228-997-00	RES, ADJ, CARBON	100K				C710	1-102-110-00	CERAMIC	220PF	10%	50V	
RV505	1-228-995-00	RES, ADJ, CARBON	22K				C722	1-162-622-11	CERAMIC	330PF	10%	6.3KV	
RV506	1-228-996-00	RES, ADJ, CARBON	47K				<u>DIODE</u>						
RV507	1-230-625-11	RES, ADJ, CARBON	330				D701	8-719-911-19	DIODE	1SS119			
RV508	1-228-990-00	RES, ADJ, CARBON	1K				D702	8-719-911-19	DIODE	1SS119			
<u>RELAY</u>													
RY601	△1-515-659-11	RELAY					D703	8-719-911-19	DIODE	1SS119			
<u>SWITCH</u>													
S501	1-554-186-00	SWITCH, LEVER					L701	1-408-417-00	MICRO INDUCTOR	47UH			
S601	△1-554-804-12	SWITCH, PUSH (1 KEY)					<u>TRANSISTOR</u>						
<u>SPARK GAP</u>													
SG501	1-519-063-XX	DISCHARGING GAP					Q701	8-729-178-54	TRANSISTOR	2SC2785			
<u>TRANSFORMER</u>							Q702	8-729-326-11	TRANSISTOR	2SC2611			
T201	1-427-479-00	TRANSFORMER (SOT)					Q703	8-729-178-54	TRANSISTOR	2SC2785			
T501	△1-437-090-11	HDT					Q704	8-729-326-11	TRANSISTOR	2SC2611			
T599	△1-421-795-11	TRANSFORMER, INSULATED					Q705	8-729-178-54	TRANSISTOR	2SC2785			
T601	△1-421-935-11	L.F.T					Q706	8-729-326-11	TRANSISTOR	2SC2611			
<u>THERMISTOR</u>													
THP601	△1-806-214-11	THERMISTOR, POSITIVE					<u>RESISTOR</u>						
<u>CRYSTAL</u>													
X301	1-567-505-11	OSCILLATOR, CRYSTAL					R701	1-202-838-00	SOLID	100K	10%	1/2W	
							R702	1-216-394-00	METAL OXIDE	2.7	5%	3W	F
							R703	1-202-842-11	SOLID	220K			
							R704	1-202-846-00	SOLID	470K			
							R705	1-202-837-00	SOLID	82K			
							R706	1-202-549-00	SOLID	100	10%	1/2W	
							R707	1-202-842-11	SOLID	220K			
							R708	1-202-824-00	SOLID	3.3K			
							R709	1-202-824-00	SOLID	3.3K			
							R710	1-247-700-11	SOLID	100	5%	1/4W	
							R711	1-249-411-11	CARBON	330	5%	1/6W	
							R712	1-249-411-11	CARBON	330	5%	1/6W	

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Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R713	1-202-824-00	SOLID	3.3K	1/2W		C445	1-101-004-00	CERAMIC	0.01MF	50V	
R714	1-249-421-11	CARBON	2.2K	5%	1/6W	C446	1-124-445-00	ELECT	100MF	20%	16V
R715	1-249-422-11	CARBON	2.7K	5%	1/6W	C447	1-124-119-00	ELECT	330MF	20%	16V
R716	1-249-414-11	CARBON	560	5%	1/6W						
R718	1-249-405-11	CARBON	100	5%	1/6W						
R719	1-249-420-11	CARBON	1.8K	5%	1/6W						
R720	1-249-414-11	CARBON	560	5%	1/6W	D481	8-719-109-88	DIODE RD5.6ES-B1			
R722	1-215-899-11	METAL OXIDE	15K	5%	2W	D482	8-719-109-88	DIODE RD5.6ES-B1			
R723	1-249-413-11	CARBON	470	5%	1/6W	D483	8-719-911-19	DIODE ISS119			
R725	1-249-421-11	CARBON	2.2K	5%	1/6W	D484	8-719-911-19	DIODE ISS119			
R726	1-249-405-11	CARBON	100	5%	1/6W						
R727	1-249-419-11	CARBON	1.5K	5%	1/6W						
R728	1-249-413-11	CARBON	470	5%	1/6W	IC401	1-235-783-11	INSULATED MODULE, VIDEO(IVM-1)			
R729	1-249-411-11	CARBON	330	5%	1/6W	IC402	1-235-784-11	INSULATED MODULE, AUDIO(IAM-1)			
R730	1-215-899-11	METAL OXIDE	15K	5%	2W						
R732	1-215-408-00	CARBON	300	5%	1/6W	J401	1-563-547-21	JACKE BLOCK, PIN (BNC) 3P			
R733	1-249-422-11	CARBON	2.7K	5%	1/6W	J402	1-563-547-21	JACKE BLOCK, PIN (BNC) 3P			
R734	1-249-421-11	CARBON	2.2K	5%	1/6W						
R735	1-249-405-11	CARBON	100	5%	1/6W						
R737	1-215-899-11	METAL OXIDE	15K	5%	2W						
R738	1-202-848-00	SOLID	680K		1/2W	Q461	8-729-178-54	TRANSISTOR 2SC2785			
R739	1-202-838-00	SOLID	100K	10%	1/2W	Q462	8-729-178-54	TRANSISTOR 2SC2785			
R740	1-202-842-11	SOLID	220K		1/2W						
<u>RESISTOR</u>											
RV701	1-230-619-11	RES, ADJ, METAL GLAZE	110M			R401	1-246-537-00	CARBON	470K	5%	1/4W
RV702	1-228-723-00	RES, ADJ, CERAMIC	4.7K			R402	1-246-537-00	CARBON	470K	5%	1/4W
RV703	1-228-721-00	RES, ADJ, CERAMIC	2.2K			R403	1-247-106-00	CARBON	91	5%	1/4W
RV704	1-228-723-00	RES, ADJ, CERAMIC	4.7K			R404	1-247-106-00	CARBON	91	5%	1/4W
RV705	1-228-721-00	RES, ADJ, CERAMIC	2.2K			R405	1-249-467-11	CARBON	68K	5%	1/4W
RV706	1-228-723-00	RES, ADJ, CERAMIC	4.7K			R406	1-249-467-11	CARBON	68K	5%	1/4W
RV707	1-228-725-00	RES, ADJ, CERAMIC	22K			R407	1-247-708-11	CARBON	470	5%	1/4W
RV708	1-226-114-00	RES, ADJ, METAL GLAZE	2.2M			R408	1-249-413-11	CARBON	470	5%	1/6W

*A-1394-121-A U BOARD, COMPLETE											

<u>CAPACITOR</u>											
C431	1-124-468-11	ELECT	100MF	20%	6.3V	R416	1-249-431-11	CARBON	15K	5%	1/6W
C432	1-124-468-11	ELECT	100MF	20%	6.3V	R417	1-249-391-11	CARBON	6.8	5%	1/6W
C433	1-123-356-00	ELECT	10MF	20%	16V	R418	1-249-391-11	CARBON	6.8	5%	1/6W
C434	1-123-356-00	ELECT	10MF	20%	16V	R419	1-202-729-00	SOLID	6.8M	10%	1/2W
C435	1-123-356-00	ELECT	10MF	20%	16V	R420	1-249-397-11	CARBON	22	5%	1/6W
C436	1-123-356-00	ELECT	10MF	20%	16V	R421	1-249-391-11	CARBON	6.8	5%	1/6W
C437	1-124-478-11	ELECT	100MF	20%	25V	R422	1-249-391-11	CARBON	6.8	5%	1/6W
C438	1-124-791-11	ELECT	1MF	20%	50V						
C439	1-124-119-00	ELECT	330MF	20%	16V						
C440	1-101-004-00	CERAMIC	0.01MF		50V	S401	1-570-756-11	SWITCH, SLIDE			
<u>CONNECTOR</u>											
C441	1-124-445-00	ELECT	100MF	20%	16V						
C442	1-123-356-00	ELECT	10MF	20%	16V						
C443	1-162-599-12	CERAMIC	0.0047MF	20%	400V	U1	*1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P			
C444	1-123-356-00	ELECT	10MF	20%	16V	U2	*1-566-055-11	PIN, CONNECTOR 3P			

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U

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
U3	*1-566-054-11	PIN, CONNECTOR 2P	

MISCELLANEOUS

△ 1-230-786-12 RESISTER ASSY, HIGH-VOLTAGE
 △ 1-451-268-21 DEFLECTION YOKE (SY-153C)
 1-452-032-00 MAGNET, DISK; 10MM Ø
 1-452-094-00 MAGNET, ROTATABLE DISK; 15MM Ø
 1-452-277-00 MAGNET, BMC
 △ 1-559-008-11 CORD, POWER (WITH CONNECTOR)

L901 △ 1-426-227-23 COIL, DEMAGNETIZATION
 SP901 1-503-749-11 SPEAKER
 T504 △ 1-439-415-11 TRANSFORMER ASSY, FLYBACK
 V901 △ 8-738-752-05 PICTURE TUBE (A51JUH50X)

ACCESSORIES AND PACKING MATERIALS

<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
*4-341-771-01	CUSHION (UPPER) (ASSY)	
*4-341-772-01	CUSHION (LOWER) (ASSY)	
*4-377-015-01	BAG, PROTECTION	
4-482-414-21	MANUAL, INSTRUCTION	
*4-385-724-01	INDIVIDUAL CARTON	
4-491-213-22	INSTRUCTION	

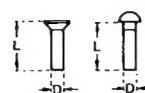
The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE

Screw:

P 3 x 10
L: Length in mm
D: Diameter in mm
Type of head
Indicated slotted-head only.

Unless otherwise indicated, it means cross-recessed head (Phillips type).

**Nut, Washer, Retaining ring:**

N 3
Diameter of usable screw or shaft
Reference designation

Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	